

AMENDMENTS TO THE CLAIMS

The following claim set replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) Method of treating chemical pulp comprising at least cooking cellulose fibrous material, washing the cooked pulp in several stages comprising successively at least a first washing stage and a second washing stage, and delignificating/bleaching the washed pulp in an oxygen stage following the washing of the pulp, wherein at least part of the filtrate of the second washing stage preceding the oxygen stage is recycled countercurrently and treated with an oxidizing chemical before said filtrate or part of it is used as washing liquid in the first washing stage in order to decrease or prevent the reactions between the oxygen and some cook-originating organic material in the presence of the pulp, and wherein the chemical to be mixed is gaseous, whereby after a certain retention time said filtrate-chemical mixture is led to gas-separation prior to leading the filtrate to the first washer as washing liquid.

2. (Previously Presented) Method according to claim 1, wherein at least part of the washing liquid used in the second washing stage is filtrate obtained from the washer following the oxygen stage.

3. (Previously Presented) Method according to claim 1, wherein the washing preceding the oxygen stage is performed by means of a suction drum filter, a diffuser, a belt washer, a multi-stage drum filter or a press.

4. (Previously Presented) Method according to claim 1, wherein only a part of the filtrate that is being used as washing liquid in the first stage is treated with an oxidizing chemical.

5. (Previously Presented) Method according to claim 1, wherein the oxidizing chemical is oxygen or hydrogen peroxide or a derivative thereof.

6. (Previously Presented) Method according to claim 1, wherein the washing apparatus is a multi-stage drum filter or several drum filters connected in series.

7. (Previously Presented) Method according to claim 6, wherein said filtrate is obtained from a washing stage of said multi-stage drum filter and treated with an oxidizing chemical before it is returned back to another washing stage of said multi-stage drum filter to be used as washing liquid.

8. (Previously Presented) Method according to claim 3, wherein the washing apparatus is a combination of said devices or a series connection of a said device.

9. (Previously Presented) Method according to claim 8, wherein said filtrate is obtained from a filtrate tank of said series connection and returned as washing liquid to a said washing device.

10. (Previously Presented) Method according to claim 1, wherein said at least part of the filtrate of the second washing device preceding the oxygen stage is led after the washer into chemical mixing, after which the filtrate-chemical mixture is allowed a sufficient retention time after which the oxidized filtrate is led to the first washer as washing liquid.

11. (Canceled)

12. (Currently Amended) Method according to ~~claim 11~~ claim 1, wherein said gas-separation is effected in an open container, wherefrom the filtrate is pumped to the first washer.

13. (Currently Amended) Method according to ~~claim 11~~ claim 1, wherein said gas-separation is effected by means of a discharging device, wherefrom the filtrate is led directly to the first washer as washing liquid.

14. (Currently Amended) Method ~~according to claim 1~~ of treating chemical pulp comprising at least cooking cellulose fibrous material, washing the cooked pulp in

several stages comprising successively at least a first washing stage and a second washing stage, and delignifying/bleaching the washed pulp in an oxygen stage following the washing of the pulp, wherein at least part of the filtrate of the second washing stage preceding the oxygen stage is recycled countercurrently and treated with an oxidizing chemical before said filtrate or part of it is used as washing liquid in the first washing stage in order to decrease or prevent the reactions between the oxygen and some cook-originating organic material in the presence of the pulp, wherein after the washing effected with oxidized filtrate, the pulp is led to an oxygen stage having a pH more than 7.5, a pressure of 1 – 17 bar (abs.), a temperature between 75 – 120 °C and treatment time between 0.5 – 120 minutes.

15. (Previously Presented) Method according to claim 14, wherein oxygen in the amount of 1 – 50 kg/ADT pulp and alkali in the amount of 1 – 60 kg/ADT pulp is fed into said oxygen stage.

16. (Previously Presented) Method according to claim 14, wherein said oxygen stage comprises one or several steps, whereby the steps are counted according to the mixing and chemical dosing.

17 – 26. (Canceled)

27. (Currently Amended) Apparatus for treating chemical pulp, which apparatus comprises at least a digester for cellulose fibrous material, brown stock washing devices, devices following the wash of the pulp for delignifying/bleaching the pulp in an oxygen stage and devices for washing the pulp after the oxygen stage and further filtrate lines for leading washing filtrates countercurrently to preceding washers to be used as washing liquid, wherein the filtrate line preceding the oxygen stage is provided with devices for treating the filtrate flowing in that part of the line with oxidizing chemical, wherein when using a gaseous chemical, in the filtrate line after the mixer there is arranged a separator for excess non-reacted gas.

28. (Previously Presented) Apparatus according to claim 27, wherein said oxidizing devices are arranged in a filtrate line located between the washer just prior to the oxygen stage and the washer preceding said washer.

29. (Previously Presented) Apparatus according to claim 27, wherein said oxidizing devices comprise at least a mixer.

30. (Previously Presented) Apparatus according to claim 29, wherein the mixer used is a filtrate pump or a mixer arranged in the filtrate line for that special purpose.

31. (Previously Presented) Apparatus according to claim 27, wherein the apparatus further comprises after the mixer a reaction vessel or flow pipe, by means of which a sufficient reaction time is effected for the filtrate and the chemical.

32. (Canceled)

33. (Currently Amended) Apparatus according to ~~claim 32~~ claim 27 or 29, wherein said gas-separator is connected to the filtrate tank wherein the separated gas and foam possibly separated with it are led.

34. (Currently Amended) Apparatus ~~according to claim 27~~ for treating chemical pulp, which apparatus comprises at least a digester for cellulose fibrous material, brown stock washing devices, devices following the wash of the pulp for delignifying/bleaching the pulp in an oxygen stage and devices for washing the pulp after the oxygen stage and further filtrate lines for leading washing filtrates countercurrently to preceding washers to be used as washing liquid, wherein the filtrate line preceding the oxygen stage is provided with for treating the filtrate flowing in that part of the line with oxidizing chemical, and wherein the filtrate system preceding the oxygen stage comprises at least one pressurized reaction vessel.

35 – 40. (Canceled)

41. (New) Method of treating chemical pulp comprising at least cooking cellulose fibrous material, washing the cooked pulp in several stages comprising successively at least a first washing stage and a second washing stage, and delignificating/bleaching the washed pulp in an oxygen stage following the washing of the pulp, wherein at least part of the filtrate of the second washing stage preceding the oxygen stage is recycled countercurrently and treated with oxygen and/or hydrogen peroxide before said filtrate or part of it is used as washing liquid in the first washing stage in order to decrease or prevent the reactions between the oxygen and some cook-originating organic material in the presence of the pulp.

42. (New) Method according to claim 41, wherein said at least part of the filtrate of the second washing stage preceding the oxygen stage is treated with one of oxygen or hydrogen peroxide.

43. (New) Method according to claim 41, wherein said at least part of the filtrate of the second washing stage preceding the oxygen stage is treated with a combination of both oxygen and hydrogen peroxide.